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Palmowski

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(54) **ORBITING BLADE COAXIAL CABLE
CUTTER/STRIPPER**

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(58) Field of Search **81/9.51**

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,619,164 A	10/1986	Aikens
4,745,828 A	5/1988	Stepan
4,869,135 A	9/1989	Hoffa
4,920,830 A	5/1990	Stepan
4,981,054 A	1/1991	Stepan
4,993,147 A	2/1991	Carpenter et al.
4,993,287 A	2/1991	Carpenter et al.
5,010,797 A	4/1991	Stepan
5,111,720 A	5/1992	Stepan
5,243,882 A	9/1993	Stepan
5,272,941 A	12/1993	English et al.
5,361,384 A	11/1994	Stepan
5,438,783 A	8/1995	Stepan
5,445,051 A	8/1995	Carpenter et al.
5,582,078 A	12/1996	Talley
5,596,802 A	1/1997	Koch et al.
5,771,573 A	6/1998	Talley
5,787,768 A	8/1998	Talley

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(57) **ABSTRACT**

Apparatus for supporting a coaxial cable, or the like, and effecting cutting and stripping operations to remove a portion of one or more layers which concentrically cover a central conductor. A single blade, having a circular cutting edge, is moved in an orbital path about the cable with rotary motion of a motor translated to orbital motion of the blade through a plurality of plates relatively movable on crossed, linear, roller bearings and a shaft eccentrically affixed to the motor with the shaft and motor axes at an acute angle to one another. The shaft extends through a spherical bearing mounted in one of the plates, thereby translating nutational motion of the shaft to orbiting motion of the plate which is directly attached to the blade. A unique clamping assembly includes a pair of jaws having respective gear racks engaging a single pinion gear on a motor output shaft for linear movement of the jaws by equal distances in opposite directions. A microprocessor controls the level of current to the motor, thereby adjusting the clamping force applied to the cable, and increases this force during the stripping operation, when maximum axial force is applied to the cable. A guide bushing establishes the radial position of the cable axis and is stationary during blade movement, thereby permitting the opening in the bushing to closely approximate the cable diameter. The position of the bushing is adjustable to align the central axis of the bushing opening with that of the blade cutting edge. The bushing is also movable to an inoperative position to permit unobstructed access to the blade for replacement thereof. A pair of gripping members are movable to engage the severed portion of the covering layer to assist in the stripping operation, and a unique combination of hardware and software is provided for calibrating the position of the gripping members at equal distances from the axis of the cable.

22 Claims, 16 Drawing Sheets

